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| 10/669,041 | 09/23/2003 | Patricia Lynn Maw | 656-L | 3991 |

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| EXAMINER | |
|---|---|
| TO, JENNIFER N | |

| ART UNIT | PAPER NUMBER |
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| 2195 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/669,041 | MAW ET AL. | |
| | Examiner | Art Unit | |
| | JENNIFER N. TO | 2195 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *23 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/23/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

**DETAILED ACTION**

1. Claims 1-8 are presented for examination.

2. Claims 5-7 are not being treated under 35 U.S.C 112, 6th paragraph because the claims language did not uses the phrase "means for" or "step for, that is, the first prong of the 3-prong analysis is not met. Thus the 35 U.S.C 112, 6th paragraph for claims 5-7 has not been invoked, since the presumption is that applicant did not intend to invoke the provisions of 35 U.S.C 112, 6th paragraph (see MPEP 2181 [R-6} section I). For example, claim 5, line 9, recited "means to" instead of "means for" and so forth.

3. The disclosure is objected to because of the following informalities: typo graphical errors, for example page 5, line 30, the phrase "proc ssor" should be "processor"; page 6, line 30 the phrase "Y t" should be "Yet"; page 7, lines 30-31 the phrase "data storag, as opposed to th method of the present invention, which is concern d with CPU cycles" should be "data storage, as opposed to the method of the present invention, which is concerned with CPU cycles". Appropriate correction is required.

4. Claims 2, 4, 6, 7, 8 are objected to because of the following informalities: typographical error, for example, claim 2, line 1 the word "th" should be "The", the word "wh rein" should be "wherein"; claim 4, line 9, the word "n twork" should be "network"; claim 7, line 9, the word "x cute" should be "execute"; claim 8, line 56, the word "se" should be "set". Appropriate correction is required.

5. The objections above are examples of numerous errors that recurred throughout various pages of the specification and various claims. There are too many errors to list independently. Applicant should consider fixing all these errors in the amendment.

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: METHOD OF MANAGING WORKLOADS IN A DISTRIBUTED PROCESSING SYSTEM.

7. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required. For example, claim 5, recited "means for selecting the utilization of a group of "X" processors (CPUs) where X is less than or equal to the total number "TN" of the processors (CPU) in said network". However, the specification only disclosed means for selecting subset group of said CPUs to be utilized for processing, where the subset group of said CPUs is less than or equal to the total number "TN" of the processors (CPU) in said network (fig 1A, specification page 15, lines 25-28, page 24, lines 25-31, page 25, lines 1-7).

### *Claim Rejections - 35 USC § 112*

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 5-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

10. As per claim 5, lines 5-8, it recited "means for selecting the utilization of a group of "X" processors (CPUs) where X is less than or equal to the total number "TN" of the processors (CPU) in said network". However, nothing in the specification described or supported "selecting the utilization of a group of "X" processors (CPUs) where X is less than or equal to the total number "TN" of the processors (CPU) in said network". In the specification (fig 1A, specification page 15, lines 25-28, page 24, lines 25-31, page 25, lines 1-7), it was only described/supported for "selecting subset group of said CPUs to be utilized for processing, where the subset group of said CPUs is less than or equal to the total number "TN" of the processors (CPU) in said network". Thus the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. For the purposed of examination, examiner will interpreted the claimed limitation as "selecting subset group of said CPUs to be utilized for processing, where the subset group of said CPUs is less than or equal to the total number "TN" of the processors (CPU) in said network".

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The following terms lacks antecedent basis:

i. the workload – claim 1;

ii. the total number TN – claim 1;

iii. the work completion – claim 3;

iv. the resources – claim 4;

v. the percentage of the total work -- claim 5;

vi. said utilized group of processors – claim 5;

vii. the amount of work – claim 7;

viii. the required workload – claim 7;

ix. the total number of processors – claim 8;

x. the percentage of the total system processor resources – claim 8;

xi. the total system processor resources – claim 8;

xii. the subset group of resources – claim 8;

xiii. said selected group -- claim 8;

xiv. the selected input parameter – claim 8;

xv. the number of processors selected – claim 8;

xvi. the minimum time – claim 8;

xvii. the time – claim 8;

xviii. the number of each processors local work -- claim 8;

xix. the number of work units per second" – claim 8;

xx. the utilized processors – claim 8;

xxi. the time period – claim 8;

xxii. the value – claim 8;

xxiii. the ongoing applications – claim 8;

xxiv. The rejections above are examples of numerous errors that recurred throughout various claims. There are too many errors to list independently. Applicant should consider fixing all these errors in the amendment.

b. The claim language in the following claims is not clearly understood:

i. as per claim 1, line 6, the term "may" rendered the claim indefinite as to determine to meet and bound of the claimed invention.

ii. as per claim 8, line 20, it is uncertain what "the time" referred to (i.e. the minimum time M or the time T). Line 24, it is uncertain whether "the processors" the same or different with the selected processors in the subset of processors.

***Claim Rejections - 35 USC § 101***

13. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

14. Claims 1-7 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

15. The language of claims 1-4 raises a question as to whether the claim is directed merely to an abstract idea that is not result in a practical application producing a useful, concrete, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. For example, the claims limitation recited the matter of distributing a workload of applications across a number N of affiliated CPUs where "N" may range from a subset group "Sg" of CPUs to the total number TN of all CPU's in said network, and specifying a selected subset group of said CPUs to be utilized for processing while those CPUs not in the selected subset group are left unaffected. Therefore they are not produced any tangible result to form a basic statutory subject matter under 35 U.S.C. 101 for a practical application.

16. Claims 5-7 are rejected under 35 U.S.C. 101 because the claimed invention are directed to system claim, but appearing to be comprised of software alone without claiming associated computer hardware required for execution. For example, claim 5, line 5 recited a means for selecting, in which according to the specification this means for is a software module. A system that comprised only a software module is a software system itself. Thus, claims 5-7 are directed to non-statutory subject matter.

***Claim Rejections - 35 USC § 102***

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

18. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Callis et al. (hereafter Callis) (U.S. Patent No. 6963917).

19. As per claim 1, Callis teaches the invention as claim including in a network of affiliated CPUs, a method for managing the workload of said CPUs (abstract) comprising the steps of:

distributing a workload of applications across a number N of affiliated CPUs where "N" may range from a subset group "Sg" of CPUs to the total number TN of all CPUs in said network (abstract; col. 2, lines 31-37; 13, lines 27-34); and

specifying a selected subset group of said CPUs to be utilized for processing while those CPUs not in the selected subset group are left unaffected (abstract; col. 2, lines 37-39; col. 5, lines 36-42; col. 6, line 67 through col. 7, lines 8; col. 13, lines 34-37, i.e. define a subset of the plurality of data processing systems).

20. Claims 1-2, and 4-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Hubbard (U.S. Patent No. 7092985).

21. As per claim 1, Hubbard teaches the invention as claim including in a network of affiliated CPUs, a method for managing the workload of said CPUs (abstract) comprising the steps of:

distributing a workload of applications across a number N of affiliated CPUs where "N" may range from a subset group "Sg" of CPUs to the total number TN of all CPUs in said network (col. 3, lines 20-39; col. 4, lines 14-22); and

specifying a selected subset group of said CPUs to be utilized for processing while those CPUs not in the selected subset group are left unaffected (col. 21 line 59 through col. 22, line 5).

22. As per claim 2, Hubbard teaches allocating the percentage of utilization of the total workload that will be executed by each CPU in the selected subset group (col. 3, lines 30-43; col. 12, lines 10-48).

23. As per claim 4, Hubbard teaches generating a total processor load on a subset of CPUs in a network of total CPUs, and establishing an input parameter for those utilized CPUs which establishes a percentage of the resources to be used as a portion of the total network resource (col. 12, lines 1-48; col. 14, lines 10-35; col. 21, line 59 through col. 22, line 21).

24. As per claim 5, Hubbard teaches the invention as claim including a system for selecting a chosen group or all of said CPUS for utilization to process a total workload (col. 21, line 59 through col. 22, line 21), comprising:

means for selecting subset group of said CPUs to be utilized for processing, where the subset group of said CPUs is less than or equal to the total number "TN" of the processors (CPU) in said network (col. 21, line 59 through col. 22, line 21);

means to distribute the total workload among the selected group of utilized processors (abstract);

means to allocate percentage of the total work which is to be allocated to each of said utilized processors in said selected group (col. 3, lines 30-43; col. 12, lines 10-48);

means to count the processing work completed by each processor in said utilized group of processors (col. 15, lines 5-34);

means to determine when said total workload is fully completed (col. 8, lines 8-11; col. 10, lines 29-34).

***Claim Rejections - 35 USC § 103***

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

26. Claims 3, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubbard (U.S. Patent No. 7092985), as applied in claims 1-2 above, and in view of Odhner et al. (hereafter Odhner) (U.S. Patent No. 6862623).

27. As per claim 3, Hubbard teaches the invention substantially as claimed in claims 1-2 above. Hubbard did not specially teach calculating a work quantum for each utilized CPU which indicates the work completion per unit of time for each CPU, and determining when sufficient work quantum have been accomplished to complete the total workload.

28. However, Odhner teaches calculating a work quantum for each utilized CPU which indicates the work completion per unit of time for each CPU, and determining when sufficient work quantum have been accomplished to complete the total workload (abstract; col. 1, lines 64-67; col. 4, lines 16-19; col. 5, lines 33-41; col. 9, lines 10-17).

29. it would have been obvious to one of an ordinary skill in the art at the time the invention was made to have combined that teaching of Hubbard and Odhner because Odhner teaching of calculating a work quantum for each utilized CPU which indicates the work completion per unit of time for each CPU, and determining when sufficient work quantum have been accomplished to complete the total workload would improved the integrity of Hubbard's system by providing to the users an expected load that system needs to handle (Odhner, col. 1, lines 43-44).

30. As per claim 6, it is rejected for the same reason as claim 3 above.

***Allowable Subject Matter***

31. Claim 8 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, and minor objections, set forth in this Office action.

32. Claim 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph and minor objections, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

33. The following is an examiner's statement of reasons for allowance:

The prior arts and the combination of prior arts of recorded teaches the method and system for managing the workload in a distributed processing system including steps of distributing workloads to a number of affiliated CPUs wherein the number of CPUs ranging from a subset of CPUs to all of CPUs in the system, specifying a selected subset of CPUs to be utilized for processing the workload, allocating a percentage of utilization of total workloads that will be executed by each CPU in the selected subset of CPUs, calculating a work quantum for each utilized CPU which indicates the work completion per unit of time for each CPU, determining when sufficient work quantum have been accomplished to complete the total workload, generating a total processor load on a subset of CPUs, and establish an input parameter for those utilized CPUs which establishes a percentage of the resources to be used as a portion of the total

network resource. However, the prior arts and the combination of prior arts of recorded fail to teach or suggest the steps of determining a minimum time for one utilized processor to accomplish one work unit, determining a number of work unit that each utilized processor can execute in one second, determining a amount of work each thread should do during a selected 0.1 to 1 sec time period designated as the time quantum to generate the required workload for that processor carrying the thread, calculating a work quantum based on the amount of work and the time quantum.

34. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see attached PTO form 892).

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER N. TO whose telephone number is (571)272-7212. The examiner can normally be reached on M-T 6AM- 3:30 PM, F 6AM- 2:30 PM.

37. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

38. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195